

BEFORE THE
Federal Communications Commission
WASHINGTON, DC

In the Matter of:)	
)	
The Establishment of Policies and)	IB Docket No. 99-81
Service Rules for the Mobile Satellite)	RM-9328
Service in the 2 GHz Band)	
_____)	

TO: The Commission

COMMENTS OF
MOBILE COMMUNICATIONS HOLDINGS, INC.

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EXECUTIVE SUMMARY

Proposed spectrum assignment options. The Federal Communications Commission (“Commission”) proposed four alternative 2 GHz band spectrum assignment options in its most recent notice of proposed rulemaking in the 2 GHz proceeding—the Flexible Band Arrangement, the Traditional Band Arrangement, the Negotiated Entry Approach, and Competitive Bidding. Of these four options, the Flexible Band Arrangement is by far the superior approach and this option should be adopted by the Commission. The Flexible Band Arrangement guarantees each 2 GHz band Mobile-Satellite Service (“MSS”) license applicant and foreign-licensed satellite provider that filed a letter of intent (“Applicants”) two uplink and two downlink channels of 2 GHz spectrum. The Flexible Band Arrangement simultaneously prevents spectrum from remaining fallow while the Applicants are constructing and launching their satellite systems. In addition, the expansion bands that are incorporated into the Flexible Band Arrangement provide this spectrum assignment option with the flexibility necessary to accommodate variations in customer usage of the Applicants’ systems which may result from diverse technologies used by the Applicants or from changing market trends in the MSS market.

By contrast, the Traditional Band Arrangement, although guaranteeing Applicants access to spectrum and simplifying international coordination, encourages inefficient spectrum warehousing by allowing the primary channels assigned to Applicants to remain fallow while the Applicants are building out their systems. The Negotiated Entry Approach, in turn, fails to assure that Applicants will have adequate access to 2 GHz spectrum. Under this approach, initial entrants will occupy the entire 2 GHz band and delay later entrants’ access to 2 GHz spectrum by hindering later entrants’ coordination efforts. Because later entrants will be required to negotiate

coordination and spectrum location with earlier entrants rather than being guaranteed spectrum access, under the Negotiated Entry Approach later entrants will also be unfairly burdened with regulatory uncertainty and risk which could adversely impact system implementation, including the ability to secure investments and/or financing. Lastly, Competitive Bidding offers no advantages over the Flexible Band Arrangement and will impose prohibitive costs on the Applicants domestically and, if foreign administrations follow the Commission's lead, worldwide.

Harmonization of foreign 2 GHz band plans. To encourage the harmonization of international regulations governing the technical characteristics and spectrum assignments of the global and regional 2 GHz MSS satellite systems proposed by the Applicants, the Commission should condition the grant of 2 GHz licenses on agreement by the Applicants to use their best efforts to cause foreign administrations to harmonize their band plans and 2 GHz MSS satellite system technical requirements with those established by the Commission in the instant proceeding. Doing so is in the interest of the Applicants because the Applicants' ability to successfully compete in global MSS markets is directly contingent on the Applicants' global access to uniform spectrum and their ability to comply with the various foreign regulation applicable to 2 GHz MSS satellite systems. In addition, the Commission should proactively seek opportunities to encourage the adoption or amendment by foreign administrations of their domestic 2 GHz MSS satellite system licensing requirements which are compatible with the Commission's 2 GHz band plan and technical requirements. Specifically, the Commission and the Applicants should encourage the European Radiocommunications Committee to provide U.S.-licensed 2 GHz MSS satellite system licensees with access to 2 GHz spectrum throughout Europe that is, to the extent possible, consistent with the Commission's spectrum assignments. Providing such reciprocity is consistent

with the World Trade Organization's Basic Telecom Services Agreement and should be pursued by the Commission, Applicants, and Executive Branch through all available means.

Other regulatory issues. MCHI endorses herein several of the Commission's proposals and recommends that the Commission implement additional regulatory measures each of which is in the public's interest.

- MCHI urges the Commission to provide Applicants with an opportunity to amend their applications, including their modulation plan, following the Commission's adoption of a final band plan but prior to the Commission's adoption of spectrum segments or assignment of primary channels.
- The Commission should not adopt strict financial qualification requirements under any circumstances. Doing so is unnecessary because the Flexible Band Arrangement will prevent mutual exclusivity, accommodate all Applicants, and provide opportunities for diverse service providers.
- The Commission should require non-U.S.-licensed Applicants to expeditiously pursue the international coordination of their satellite systems with the International Telecommunications Union.
- Although MCHI believes that it can coordinate use of the 7 GHz and 15 GHz bands for both its Big LEO and 2 GHz MSS feeder links and with the other Big

LEO licensees, the Commission should not require additional feeder link sharing in the 7 GHz and 15 GHz bands.

- MCHI urges the Commission to ensure that the relocation compensation plan that it adopts complies with the following principles: (1) no Applicant should be required to participate in the compensation of incumbent 2 GHz licensees for relocation expenses until the Applicant commences operation; (2) initial entrants should be reimbursed for a portion of their relocation compensation expenses by later entrants; and (3) relocation costs should be averaged over all cleared spectrum.
- The Commission should minimize regulatory costs levied on applicants by reducing to the extent possible incumbent 2 GHz licensee relocation expenses and by seeking to enable Applicants to receive universal support. This will permit Applicants to provide low-cost service to rural and high-cost areas, such as Indian reservations, that currently are not served adequately.
- The Commission should prohibit Applicants from entering into exclusionary arrangements with foreign administrations for the provision of telecommunication services to or from the United States and effectively condition the grant of licenses upon compliance with this requirement.

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I. **INTRODUCTION**

Mobile Communications Holdings, Inc. (“MCHI”), by its attorneys and pursuant to Section 1.415 of the rules of the Federal Communications Commission (“Commission”),¹ hereby submits these Comments in response to the Commission’s March 25, 1999 Notice of Proposed Rulemaking (“NPRM”)² proposing regulations governing the issuance of space station licenses³ to

¹ 47 C.F.R. § 1.415

² The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, Notice of Proposed Rulemaking, IB Docket No. 99-81, FCC 99-50 (rel. March 25, 1999) (“NPRM”).

³ Six parties requested the Commission to issue space station licenses and three parties, TMI Communications and Company, Limited Partnership (“TMI”), ICO Service Limited (“ICO”) and Inmarsat Horizons (“Inmarsat”), filed Letters of Intent pursuant to DISCO II seeking Commission consent to provide MSS in the United States using non-U.S.-licensed satellites transmitting using 2 GHz spectrum. NPRM, at ¶ 1 n.3; see also Amendment of the Commission’s Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States, 12 FCC Rcd 24094 (1997) (“DISCO II”) (requiring non-U.S. licensed space stations to file letters of intent in Commission processing rounds). These nine

provide Mobile-Satellite Service (“MSS”) in the United States in the 2 GHz band.⁴ MCHI applied for a license to launch and operate a MSS system in the 2 GHz band,⁵ and has participated in earlier stages of the ongoing 2 GHz proceeding.⁶ Accordingly, MCHI has a substantial interest in the proposed rules that are the subject of the NPRM. As further discussed herein, MCHI urges the Commission to adopt its Flexible Band Arrangement proposed to assign 2 GHz spectrum to the Applicants and urges the Commission to adopt several modifications to its 2 GHz MSS regulatory framework.

parties are referred to herein as “Applicants” or “Licensees” and their filings are referred to as “Applications.” See Cut-Off Established For Additional Space Station Application, Letters of Intent, and Amendments to Pending Applications in the 2 GHz Frequency Band, Public Notice, 12 FCC Rcd 10446 (1997); Satellite Policy Branch Information: Satellite Applications and Letters of Intent Accepted for Filing in the 2 GHz Band, Public Notice, Report No. SPB-119 (1998).

⁴ The 2 GHz band is comprised of 1990-2025 MHz (uplink) and 2165-2200 MHz (downlink). See Amendment of Section 2.106 of the Commission’s Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, First Report and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 7388 (1997), on recon., Memorandum Opinion and Order and Third Notice of Proposed Rulemaking, ET Docket No. 95-18, FCC 98-309 (rel. Nov. 27, 1998).

⁵ MCHI filed an application in the 2 GHz processing round seeking Commission authorization to launch and operate a second generation satellite system consisting of 26 non-geostationary (“NGSO”) satellites in elliptical and circular low earth orbits (the “ELLIPSO 2G” system) in the 2 GHz band for the provision of voice and data communications services. FCC File No. 180-SAT-P/LA-97(26). In addition, MCHI holds an authorization to construct, launch, and operate a global “Big LEO” satellite system comprised of 16 NGSO satellites in elliptical and equatorial low earth orbits (the “ELLIPSO” system) for the provision of voice, data, paging/messaging, and other narrowband communications services on a global basis. FCC File Nos. 11-DSS-P-91(6); 18-DSS-P-91(18); 11 SAT-LA-95; 12 SAT-AMEND-95; 158-SAT-AMEND-96.

⁶ See Mobile Communications Holdings, Inc. Comments on Response of Iridium LLC to Surreply of ICO Services Limited, filed on November 18, 1998; Opposition of Mobile Communications Holdings, Inc. to Petition for Expedited Rulemaking of ICO Services Limited, filed on August 27, 1998; Consolidated Response of Mobile Communications Holdings, Inc., filed on June 18, 1998; Consolidated Reply Comments of Mobile Communications Holdings, Inc., filed on June 3, 1998; Petition to Deny of Mobile Communications Holdings, Inc., filed on May 4, 1998; Petitions to Deny and Comments of Mobile Communications Holdings, Inc., filed on May 4, 1998.

II. THE COMMISSION SHOULD ADOPT ITS PROPOSED FLEXIBLE BAND ARRANGEMENT TO ASSIGN 2 GHZ SPECTRUM AMONG THE APPLICANTS

In its NPRM, the Commission proposed and requested comment on four alternative spectrum assignment options pursuant to which the Commission will be able to assign discrete blocks of spectrum to the Applicants to avoid mutual exclusivity.⁷ MCHI fully supports and endorses the Commission's Flexible Band Arrangement. As discussed herein, the Flexible Band Arrangement provides the Applicants with equitable access to spectrum, provides the greatest flexibility to accommodate technological advances and growth in customer demand in the future, provides incentive for Applicants to expeditiously build out their systems, and promotes efficient use of the available spectrum. Although the Commission's Traditional Band Arrangement has some advantages including ease of international coordination, this approach is significantly less desirable than the Flexible Band Arrangement in MCHI's view. MCHI categorically opposes the Negotiated Entry and Competitive Bidding approaches.

A. The Flexible Band Approach Provides Equitable Access to Spectrum, Flexibility, and Incentive to Build Out Systems Expeditiously, and Promotes Efficient Use of the 2 GHz Spectrum

Of the four alternative spectrum assignment options proposed by the Commission, the Flexible Band Arrangement offers the most public interest benefits and thus should be adopted. However, as further discussed below, MCHI recommends certain modifications to the Flexible

⁷ NPRM, ¶¶ 6, 26-48. The Commission is required by statute to award spectrum licenses using competitive bidding if through "engineering solutions, negotiations, threshold qualifications, service regulations and other means" the Commission is unable to avoid mutual exclusivity. 47 U.S.C. § 309(j). The Flexible Band Arrangement accomplishes this result thus obviating the need to resort to competitive bidding to assign spectrum in the 2 GHz band.

Band Arrangement that will further enhance the efficient and competitive use of the 2 GHz band and thereby benefit the public interest.

Under the Flexible Band Arrangement, the Commission proposed to divide the uplink and downlink 2 GHz spectrum into three core spectrum bands—a non-geostationary (“NGSO”) time division multiple access (“TDMA”)⁸ band, a code division multiple access (“CDMA”) band, and a geostationary (“GSO”) TDMA band—and two expansion bands. Each core spectrum band would be divided into 1.25 MHz channels and Applicants would be granted primary access to two uplink and two downlink channels in the appropriate core spectrum bands.⁹ Applicants would also be granted secondary access to all other channels in the Applicants’ core spectrum band that are not yet being used by the Applicant that was assigned primary access to the channels.¹⁰ Applicants would be permitted to expand into expansion band spectrum one 1.25 MHz channel at a time once their systems’ customer traffic requirements grow beyond the capacity of the Applicants’ primary core spectrum band channels.¹¹

⁸ See NPRM, ¶ 8 nn. 29-30 (providing a definition of TDMA and CDMA and comparing the technical characteristics of the two categories).

⁹ The appropriate core spectrum band for an Applicant would be determined based on whether the Applicant proposed a CDMA or TDMA and GSO or NGSO satellite system. Celsat, Globalstar, and Iridium proposed hybrid TDMA/CDMA satellite systems and thus would be assigned one channel each in the CDMA core spectrum band and one of the two TDMA core spectrum bands. See NPRM, ¶ 36.

¹⁰ Certain Applicants will take significantly longer to commence operations than other applicants. Later entrants will not utilize the primary channels that they are assigned under the Flexible Band Arrangement for several years after the initial entrants commence operations. To prevent the primary channels assigned to later entrants from remaining fallow until the later entrants commence operations, the Commission proposed to provide secondary access to this spectrum to initial entrants. The initial entrants then must evacuate the primary channels assigned to the later entrants when the later entrants commence operations.

¹¹ The Flexible Band Arrangement proposed by the Commission does not incorporate guard bands to separate the core spectrum bands. However, the expansion bands will act as guard bands until

The Flexible Band Arrangement is preferable to the alternatives proposed by the Commission because this approach assures primary access to at least 5 MHz of spectrum for every Applicant (2 uplink and downlink channels of 1.25 MHz each) while simultaneously preventing inefficient warehousing of spectrum by providing applicants with secondary access to otherwise unused core spectrum. Because every Applicant has guaranteed access to a portion of the 2 GHz band under the Flexible Band Arrangement, Applicants that are unable to commence operations for several years will not be prejudiced by the earlier entry and utilization of spectrum by other Applicants, as long as the Applicants meet the specified milestones.¹² In addition, spectrum assigned to later entrants will not remain fallow while those Applicants are building out their systems, but instead will be available to earlier entrants on a secondary basis until the later entrants are prepared to commence operations.

Moreover, the opportunity to secure access to additional expansion band channels provides the Applicants with an incentive to build out their systems, commence service, and generate substantial customer traffic expeditiously. Also, the expansion bands in the Commission's Flexible Band Arrangement provide desirable flexibility. Unlike the Commission's other proposals, under which all of the available spectrum initially is assigned on a primary or

the expansion bands are fully occupied. Although the Commission currently is unable to determine whether guard bands will be necessary because the technical parameters of the various proposed 2 GHz systems have not been finalized, such a determination likely will be possible by the time the expansion bands are fully utilized. If necessary, guard bands can be established using expansion band spectrum. See NPRM, ¶ 38.

¹² As further explained *infra* in Section II. C., if all Applicants are not granted guaranteed access to spectrum and earlier entrants are permitted to use all unused spectrum, the earlier entrants could hinder coordination with later entrants in an effort to delay the commencement of operation by the later entrants and thereby delay the onset of competition. In addition, the risk that earlier entrants will employ this tactic will make obtaining financing exceedingly difficult for later entrants.

secondary basis, under the Flexible Band Arrangement a portion of spectrum initially is reserved to be assigned later to whichever 2 GHz satellite systems are most embraced by consumers.¹³ Thus, if one or more 2 GHz satellite systems prove vastly more successful and popular with consumers due to the technologies the systems employ, the systems' consumer-interfaces, the proclivities of the market, or some other as yet undetermined factor, the Commission's Flexible Band Arrangement will enable those systems to acquire the additional spectrum that consumer demand demonstrates that the systems merit.

1. The Commission should require CDMA Applicants to coordinate in good faith shared use of the CDMA core band spectrum and should provide adjacent primary channels to CDMA Applicants that achieve coordination agreements

Under the Commission's proposed Flexible Band Arrangement, in the CDMA core spectrum band, the three CDMA-only Applicants each would be assigned two uplink and two downlink channels, and the four hybrid CDMA/TDMA Applicants each would be assigned one uplink and one downlink channel.¹⁴ As the Commission noted in its NPRM, one of the technical characteristics of the CDMA transmission technique is that CDMA "permit[s] a number of users to operate on the same frequency simultaneously without causing mutual interference" by spreading the signal over a wider than necessary bandwidth and thereby dispersing the power.¹⁵

¹³ The initial reservation of expansion band spectrum cannot cause the same inefficiencies as the warehousing of spectrum that is likely to occur under the Traditional Band Arrangement because the expansion band spectrum will be made available to Applicants as customer demand for the Applicants' MSS offerings exceeds the Applicants' capacity. Under the Traditional Band Arrangement, by contrast, there is no mechanism to enable earlier entrants that no longer have sufficient capacity to meet their customers' demand to utilize spectrum initially assigned to Applicants that have not yet commenced operation.

¹⁴ NPRM, ¶ 36.

¹⁵ NPRM, ¶ 8 n. 30.

The CDMA Applicants¹⁶ are most likely capable of developing a core spectrum band sharing arrangement under which the CDMA Applicants can share a portion of or the entire CDMA core spectrum. Under such a band sharing arrangement, each of the CDMA Applicants could obtain access to all or nearly all of the 12.5 MHz in the CDMA core spectrum band, rather than merely their assigned channels, without reducing the spectrum available to the other CDMA Applicants.

However, to obtain this substantial increase in spectrum access that is made possible by the inherent technical characteristic of CDMA, the seven CDMA Applicants must cooperate to successfully achieve such a band sharing arrangement. This task may prove formidable given the sheer number of parties to the negotiations, the disparate technical parameters of the Applicants' MSS systems, the varied dates of commencement of operation of the Applicants, and the competitive nature of the Applicants' relationship. To facilitate the coordination negotiations between the CDMA Applicants, the Commission should adopt regulations to require CDMA Applicants to negotiate coordination of the CDMA core band spectrum in good faith.¹⁷ In addition, the Commission should assign CDMA Applicants that achieve coordination primary channels that are adjacent and should require CDMA Applicants that are unable to achieve

¹⁶ This includes both the hybrid CDMA/TDMA Applicants and the CDMA-only Applicants.

¹⁷ The Commission should incorporate into its rules a formal standard for good faith negotiations and provides an enforcement mechanism. At minimum, this regulation should require Applicants to exchange any information, including technical characteristics, that is reasonably necessary to analyze the potential for spectrum sharing between their systems, and to take any reasonable steps to determine whether spectrum sharing is feasible. The Commission should address complaints of bad faith negotiations or failure to participate in coordination negotiations on an expedited (i.e., 30 days) cases-by-case basis, and should use the full realm of enforcement mechanisms available to the Commission to enforce the good faith negotiation requirement. See Amendment of the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 8825, ¶ 20-22 (1996) (discussing how the Commission will address bad faith complaints in the context of negotiations regarding compensating relocated incumbent licensees).

coordination to migrate their systems, when necessary, to other parts of the CDMA core spectrum band to enable CDMA Applicants that achieve coordination to have primary access to adjacent channels. By doing so, the Commission will enable CDMA Applicants that achieve coordination to spread their signals across the widest band possible and thereby obtain access to substantially more shared spectrum than the Applicants were initially assigned.

2. The Commission should require Applicants to satisfy a two-part test prior to assigning the Applicant an expansion band channel

MCHI endorses the Commission's proposal to assign access to the expansion bands based on customer traffic loading requirements,¹⁸ and urges the Commission to assign reclaimed spectrum in the same manner.¹⁹ MCHI urges the Commission to require Applicants to satisfy a two-part test before providing requesting Applicants with access to the expansion bands.

First, the Commission should require Applicants to demonstrate a uniform minimum level of customer traffic per channel transmitted to or from U.S. geographic areas, using an objective measure of traffic levels, to qualify for access to expansion bands. This will prevent Applicants who choose to employ less-advanced technologies in their first generation 2 GHz satellite systems from benefiting from their satellite system's relative lack of capacity.²⁰ In addition, the

¹⁸ NPRM, ¶ 33.

¹⁹ Reclaimed channels should be treated as expansion band spectrum. Consistent with general Commission policies, the Commission proposed to require Applicants to meet milestones, similar to the Big LEO milestones, in the build out of their 2 GHz satellite systems. NPRM, ¶¶ 85-88. MCHI supports this proposal and does not believe that additional interim, in orbit spare satellite, or ground segment facility milestones are necessary. Failure to meet these milestones would "render the system authorization or spectrum reservation null and void." NPRM, ¶ 83. The Commission should reclaim 2 GHz spectrum assigned to Applicants whose authorizations become void as a result of a failure to meet build out milestones, and should assign reclaimed spectrum to operating Applicants in the same manner that the Commission assigns expansion band spectrum.

²⁰ Applicants should not be eligible to receive access to the expansion bands merely because the inefficient technology of their satellite systems causes a relatively small level of customer traffic to

Commission should revoke access to the expansion bands if the Applicants' domestic traffic levels per assigned channel fall below the minimum traffic levels required to qualify for obtaining access to the expansion bands.²¹ This will prevent Applicants from discounting their services to artificially increase traffic levels in an attempt to gain early access to the expansion bands and then increasing prices to a more profitable level once the Applicant has been permitted such access.

Second, the Commission should grant the Applicant access to the expansion bands only after the Applicant has certified to the Commission that customer demand for the Applicant's services exceeds the capacity of both the primary channels assigned to the Applicant and the available unused channels in the Applicant's core spectrum band to which the Applicant has secondary access.²² This will prevent Applicants with highly efficient satellite systems from meeting the Commission's traffic requirement and requesting expansion band spectrum while still having substantial excess transmission capacity in the Applicant's primary channels.

B. The Traditional Band Arrangement May Cause Inefficient Warehousing of Spectrum

exceed the capacity of their primary channels, when other Applicants are capable of transmitting far more customer traffic in the same amount of spectrum.

²¹ The Commission can collect annually whatever traffic data would be required to implement this proposal as part of the reporting requirements proposed by the Commission in its NPRM. NPRM, ¶¶ 91-92; see also 47 C.F.R. § 25.143(e)(iii) (requiring Big LEO licensee to report to the Commission annually "[a] detailed description of the utilization made of the in-orbit satellite system," including the percentage of time that the system is actually used for U.S. domestic or transborder transmission, the amount of capacity (if any) sold but not in service within U.S. territorial geographic areas, and the amount of unused system capacity").

²² Applicants should be required to certify to the Commission that all channels in their core spectrum bands that are not being used by the Applicants with primary access to the channels is being used by other Applicants and thus is unavailable. In addition, Applicants seeking expansion band spectrum should be required to certify that their good faith efforts to negotiate a coordination agreement for secondary access to core band spectrum were unsuccessful. To encourage good faith coordination negotiations, the Commission should permit other Applicants in the core spectrum band of an Applicant requesting an expansion band channel to contest the certification by the requesting Applicant.

The Traditional Band Arrangement is likely to cause inefficient spectrum warehousing by Applicants, and thus, in our view, should be adopted by the Commission only if the Commission decides not to adopt the Flexible Band Arrangement.²³ Under the Traditional Band Arrangement, the Commission proposed to assign each Applicant exclusive use of three 1.25 MHz uplink and three 1.25 MHz downlink channels.²⁴ Under the proposed Traditional Band Arrangement, spectrum that is assigned to Applicants that either are unable to commence operations for several years due to financial shortfalls or construction delays,²⁵ or that never ultimately commence operation,²⁶ will remain fallow to the detriment of the public. Moreover, the services provided by initially successful Applicants may be restrained by a lack of available spectrum, even though other Applicants' 2 GHz spectrum remains unused. In addition, unlike the Flexible Band Arrangement, the Traditional Band Arrangement does not incorporate the flexibility or incentive

²³ Although the Traditional Band Arrangement proposed by the Commission may provide an adequate means of avoiding mutual exclusivity because the Traditional Band Sharing Arrangement assures that every applicant will receive unobstructed access to a portion of the 2 GHz band, the Flexible Band Arrangement is the superior proposal. Besides assuring every Applicant access to at least 5 MHz of spectrum, the Flexible Band Arrangement also prevents warehousing, encourages prompt build out of satellite systems, and provides the Commission with flexibility to respond to varying levels of consumer acceptance of the proposed 2 GHz satellite systems.

²⁴ NPRM, ¶¶ 44-45.

²⁵ Even if Applicants comply with the Commission's proposed milestones, this spectrum can remain fallow for up to six years from the issuance of Commission licenses. See NPRM, ¶ 86 (requiring operation within six years of issuance of licenses). In addition, the Commission has granted extensions of milestones to Applicants on several occasions in the past.

²⁶ Even if Applicants fail to meet relevant milestones, Applicants may seek to warehouse spectrum by creating regulatory or judicial delays which prevent the timely reclamation of the spectrum by the Commission. In the alternative, Applicants may begin building out satellite systems and meet initial milestones, but fail to ever launch or commence commercial operation of their systems. In either instance, Applicants effectively prevent competitors from obtaining access to the spectrum.

for Applicants to build out facilities.²⁷ On the positive side, the Traditional Band Arrangement does provide spectrum certainty and thus will facilitate international coordination. Moreover, CDMA systems will be allowed to share.

C. The Commission Should Reject the Negotiated Entry Approach

The Negotiated Entry Approach should not be adopted by the Commission because this approach will enable initial entrants to delay later entrants from coordinating access to 2 GHz spectrum, will reduce later entrants access to financing, and will make international coordination of Applicants that are U.S. licensees very difficult for the Commission. Under the Negotiated Entry Approach, the Commission would permit earlier entrants to operate immediately anywhere in the 2 GHz band and would require the earlier entrants to negotiate in good faith spectrum location and technical coordination with later entrants when the later entrants achieve a predetermined milestone in the build out of their systems.²⁸ The Commission would participate in the coordination negotiations if certain Applicants are unable to achieve coordination independently.²⁹

1. The Negotiated Entry Approach would hamper later entrants' ability to successfully coordinate access to 2 GHz spectrum

Under the Negotiated Entry Approach, the Commission would permit the initial entrant to utilize the entire 2 GHz band to provide MSS. These initial entrants will utilize as much spectrum

²⁷ If the Commission ultimately adopts the Traditional Band Arrangement despite these shortcomings, the Commission should require the CDMA Applicants to negotiate in good faith a band sharing arrangement. In addition, to facilitate these negotiations, the Commission should permit Applicants to mutually agree to exchange spectrum assignments so that CDMA Applicants that achieve band sharing arrangements can acquire adjacent spectrum.

²⁸ NPRM, ¶ 40. The Commission did not propose a particular threshold milestone.

²⁹ NPRM, ¶ 43.

as possible in an effort to force later entrants to coordinate with the initial entrants. Later entrants would then be required to negotiate spectrum location and technical coordination with all of the earlier entrants. This untenable proposition would require an endless series of increasingly complex coordination negotiations with an increasing number of Applicants. Further, each of the initial entrants would have every incentive to hinder coordination with each subsequent entrant to the greatest extent possible to increase the competitive benefits the initial entrants derive from being among the first 2 GHz MSS licensees to offer commercial service.³⁰

The only incentive that initial entrants would have to coordinate access to the 2 GHz band expeditiously and in good faith with subsequent entrants will be the threat of eventual Commission enforcement of whatever good faith negotiation requirement the Commission imposes.³¹ Thus, initial entrants would be able to delay the commencement of operation by each later entrant at least several months by being non-responsive to coordination overtures advanced by each later entrant. Then, as with any formal complaint procedure, enforcement of the good faith negotiation requirement by the Commission likely would take several additional months while the Commission collects and reviews the bad faith allegations asserted by the later entrant. This process would be required to be repeated with each successive entrant, except that the coordination of later entrants will be more technically complex due to the presence of additional

³⁰ The Commission recognized in its NPRM the likelihood that initial entrants would attempt to use coordination negotiations with later entrants to achieve an anticompetitive advantage. NPRM, ¶ 41 (“[T]he Negotiated Entry Approach might give earlier entrants a strategic advantage in using the spectrum, mitigating their desire to negotiate in good faith with subsequent entrants, and consequently, slowing entry by other system operators.”).

³¹ The Commission has not attempted to delineate the specific terms and enforcement mechanisms underlying the Commission’s good faith negotiation requirement. The difficulty or impossibility of establishing an objective measure of good faith makes such a requirement practically incapable of enforcement and thus an ineffective safeguard.

incumbent Applicants, each of which will have the ability and incentive to delay each subsequent coordination negotiations.

2. The Negotiated Entry Approach would increase regulatory uncertainty and risk to later entrants and have an adverse impact on system implementation

The Negotiated Entry Approach could unfairly increase regulatory uncertainty and risk for later entrants, thereby adversely affecting system implementation. Moreover, the financial markets will heavily discount the value of 2 GHz licenses issued by the Commission if the Commission conditions licensees' access to 2 GHz spectrum on successful coordination with incumbent Applicants. The uncertainty regarding spectrum access for later entrants resulting from the Negotiated Entry Approach will deter the financial markets from providing the capital necessary for later entrants to build out satellite systems. Thus, such Applicants will be unable to secure necessary financing if the Applicants are required to coordinate with incumbent Applicants that currently have unfettered access to the entire 2 GHz band.³² This ultimately would result in less competition in the 2 GHz band.

3. The Negotiated Entry Approach would hinder the Commission's international coordination of U.S. 2 GHz licensees

In addition, under the Negotiated Entry Approach, the FCC would face substantial difficulty internationally coordinating the 2 GHz MSS systems of Applicants that are U.S.-licensees.³³ The FCC will not be able to identify the portion of the 2 GHz band in which individual U.S. licensees will operate worldwide until the licensees coordinates access to the 2

³² Recognizing that later entrants will face difficulty obtaining financing under the Negotiated Entry Approach, incumbent Applicants will have an added incentive to hinder coordination negotiations and compound later entrants' financing dilemmas.

³³ Foreign administrations will be responsible to internationally coordinate the Applicants that filed letters of intent with the Commission.

GHz band domestically with each earlier entrant.³⁴ Thus, the FCC will be required to internationally coordinate on behalf of each U.S. licensee the entire 70 MHz 2 GHz band. In the alternative, the Commission could defer beginning international coordination for each U.S. licensee until the licensee has negotiated permanent access to a fixed band of 2 GHz spectrum. However, this determination would not be made until a licensee is prepared to commence service and may change as later entrants coordinate access to the 2 GHz band.³⁵ Thus, the Negotiated Entry Approach would require the Commission to coordinate an excessive amount of 2 GHz spectrum for each U.S. licensee or to begin the international coordination process several years later than is typical and thereby delay the licensees' provision of MSS in foreign countries.

4. If the Commission adopts the Negotiated Entry Approach, which it should not, MCHI urges the Commission to adopt each of the variations to this approach proposed by the Commission

In addition to the basic Negotiated Entry Approach described above, the Commission requested comment on several variations of its Negotiated Entry proposal. As further described below, each of these variations offers advantages over the basic Negotiated Entry Approach, but none fully alleviates the flaws inherent in this (e.g., insufficient spectrum access for later entrants). Therefore, although MCHI opposes the Negotiated Entry Approach in any form, if the

³⁴ By contrast, under the Traditional Band Arrangement, the FCC only would need to internationally coordinate on behalf of each Applicant the discrete 7.5 MHz band of 2 GHz spectrum assigned to the Applicant, and under the Flexible Band Arrangement, the FCC would be required at most to internationally coordinate the core spectrum band in which a licensee is assigned primary channels.

³⁵ The Commission typically begins International Telecommunications Union ("ITU") coordination several years before a U.S. licensee is prepared to commence international commercial operations in order to complete the process in a timely manner and not delay the licensees' provision of service in other countries. Obviously, if the Commission is unable to begin the international coordination process on behalf of a U.S. licensee until the licensee is about to

Commission ultimately chooses to adopt this approach, the Commission should adopt each of the variations described herein.

First, rather than permit initial entrants to commence operation prior to the development of a band sharing arrangement, the Commission proposed to require Applicants to achieve a comprehensive band sharing agreement before any entrant would be permitted to commence operations.³⁶ This proposal, which the Commission does not explain thoroughly in the NPRM,³⁷ appears to resemble MCHI's recommendation that the Commission initiate a negotiated rulemaking.³⁸ The Commission's proposal contemplates direct negotiations amongst the Applicants, with assistance from the Commission, in an attempt to achieve a mutually agreeable band plan.³⁹ MCHI welcomes the opportunity to meet face-to-face with the Applicants in an attempt to determine whether a consensus band sharing plan can be developed. Therefore, MCHI renews its suggestion that the FCC establish a fixed period of time during which such coordination negotiations can take place. However, if no agreement is reached during this period, MCHI urges the Commission to then implement the much preferable Flexible Band Arrangement, rather than some form of the Negotiated Entry Approach.

commence commercial operations domestically, the licensees' international service offerings will be significantly delayed by the international coordination process.

³⁶ NPRM, ¶ 40.

³⁷ For instance, the Commission does not propose a means to resolve a deadlock between the parties during coordination negotiations.

³⁸ See Consolidated Reply Comments of Mobile Communications Holdings, Inc. (June 3, 1998); Consolidated Response of Mobile Communications Holdings, Inc., 5-8 (June 18, 1998).

³⁹ NPRM, ¶¶ 40, 43.

Second, the Commission proposed assigning Applicants primary access to 2.5 MHz of uplink and downlink spectrum.⁴⁰ Although initial entrants would be permitted to operate in any of the 2 GHz spectrum that is otherwise unutilized, initial entrants would be prohibited from causing interference to later entrants operating in their assigned primary channels. Although assigning priority channels to Applicants would assure that each Applicant has access to spectrum, this is not an equitable solution to the coordination problems that are inherent in the Negotiated Entry Approach.

Despite primary channel assignments, the coordination difficulties discussed above would remain for spectrum that has not yet been claimed by the Applicant that was assigned primary rights to the spectrum. The initial entrant would have unfettered, secondary access to all unclaimed spectrum until the other Applicants commence operations in their primary channels. Thus, initial entrants will be motivated to hinder and delay coordination with later entrants for access to remaining unused 2 GHz spectrum, and thus later entrants will be unfairly limited to their primary channels.

Third, the Commission proposed to divide the 2 GHz band into TDMA and CDMA, and GSO and NGSO band segments and to permit initial entrants only to utilize unused spectrum in the appropriate band segments.⁴¹ This proposal would reduce the number of incumbent Applicants with which later entrants would be required to coordinate access to spectrum. For instance, later entrants that are CDMA-only Applicants would not be required to negotiate coordination with initial entrants that are TDMA-only Applicants. However, this proposed

⁴⁰ NPRM, ¶ 42.

⁴¹ NPRM, ¶ 42.

variation of the Negotiated Entry Approach, standing alone,⁴² does not guarantee later entrants primary access to spectrum. Under this variation of the Negotiated Entry Approach, later entrants would still be required to attempt to negotiate coordination and spectrum location with a subgroup of incumbent Applicants. Incumbent Applicants would still be able to disrupt these negotiations and thereby prevent or delay later entrants' access to 2 GHz spectrum.⁴³

D. Competitive Bidding is Not a Viable Method to Assign Spectrum to the 2 GHz Applicants

The Commission also proposed to use Competitive Bidding to assign 2 GHz spectrum to the Applicants.⁴⁴ The Applicants unanimously agree that this is not a viable alternative because Competitive Bidding will render the development of a global MSS satellite system economically infeasible. If foreign administrations follow the Commission's lead and also assign spectrum via Competitive Bidding, the cost of obtaining access to the necessary spectrum worldwide to operate a global MSS satellite systems would be entirely prohibitive, and no such system will be launched. In addition, Competitive Bidding will increase dramatically the cost to the Applicants of providing MSS in the United States even if foreign administrations do not follow suit. As a result,

⁴² If the band segment and primary channel proposals both are added to the Negotiated Entry Approach, the Negotiated Entry Approach effectively becomes the Flexible Band Arrangement sans the expansion bands. As MCHI demonstrated supra, the expansion bands provide flexibility to the Flexible Band Arrangement and offer Applicants an incentive to build out their MSS satellite systems and increase customer traffic expeditiously. Thus, rather than adopt the Negotiated Entry Approach and modify this approach to mimic some of the benefits of the Flexible Band Arrangement, the Commission should instead simply adopt the Flexible Band Arrangement.

⁴³ Although MCHI opposes this variation of the Negotiated Entry Approach, this variation is preferable to the basic Negotiated Entry Approach because it will at least reduce the number of Applicants with which later entrants will be required to negotiate coordination.

⁴⁴ The FCC is not required by any statute or regulation to use competitive bidding to assign 2 GHz spectrum if some other means of avoiding mutual exclusivity can be developed. See NPRM, ¶¶ 6; 47 U.S.C. § 309(j). The Flexible Band Arrangement adequately avoids mutual exclusivity and, in addition, as discussed supra, provides several other public interest benefits.

Applicants would be forced to increase the prices that they charge their customers and fewer members of the public will have access to these new, technologically advanced MSS satellite services.

III. THE COMMISSION SHOULD PROVIDE APPLICANTS WITH AN OPPORTUNITY TO AMEND THEIR APPLICATIONS AFTER THE COMMISSION ADOPTS A BAND SHARING PLAN

The Applicants each submitted technical information for their proposed MSS satellite systems despite the fact that the Commission has not adopted technical requirements for MSS systems operating in the 2 GHz band, or adopted a final band plan.⁴⁵ As a result, Applicants may be required to modify their satellite systems to accommodate the band plan or technical requirements adopted by the Commission, or to facilitate band sharing with other Applicants, or to incorporate additional technical optimizations of their proposed systems. Thus, consistent with its NPRM,⁴⁶ MCHI urges the Commission to provide Applicants with at least three months following the Commission's adoption of final technical requirements and a final band sharing plan to amend the Applicants' applications as necessary.⁴⁷

IV. THE COMMISSION SHOULD ENCOURAGE FOREIGN ADMINISTRATIONS TO ADOPT COMPATIBLE REGULATIONS AND SPECTRUM PLANS FOR PROVISION OF MSS IN THE 2 GHZ BAND AND SHOULD REQUIRE ALL NON-

⁴⁵ The instant proceeding is intended to achieve both of these objectives.

⁴⁶ NPRM, ¶ 88 n.189 (“We have traditionally permitted applicants to amend their applications after the adoption of the service rules Report and Order in order to modify any inconsistencies with our service rules. Therefore, there is usually a time delay between the Report and Order and the issuance of licenses.”).

⁴⁷ The Commission should permit Applicants to amend their applications, including modifying modulation techniques, to take into account the final band plan adopted by the Commission. Only once the applicants have done so should the Commission establish assign spectrum to core segments and expansion bands and assign Applicants primary channels based on the final band plan chosen by the Commission.

U.S.-LICENSED APPLICANTS TO EXPEDITIOUSLY PURSUE INTERNATIONAL COORDINATION

A. The Commission Should Encourage Compatibility Between the Spectrum Planning and Satellite System Licensing Processes of Foreign Administrations and the Sharing Arrangement Adopted by the Commission for the United States

The Commission should condition the grant of 2 GHz licenses on agreement by the Applicants to use their best efforts to cause foreign administrations to harmonize their band plans and 2 GHz MSS satellite system technical requirements with those established by the Commission in the instant proceeding.⁴⁸ In addition, the Commission should proactively seek opportunities to influence the adoption or amendment by foreign administrations of their domestic 2 GHz MSS satellite system licensing processes to achieve compatibility with the Commission's 2 GHz band plan and technical requirements. In addition, the Commission should encourage the Executive Branch to utilize all available WTO and GATS enforcement mechanisms to ensure that foreign administrations provide access to their domestic 2 GHz spectrum in compliance with the WTO and GATS commitments of the foreign administrations.⁴⁹

The importance of harmonizing international regulation of the technical characteristics and spectrum usage of global and regional 2 GHz MSS satellite systems worldwide cannot be overemphasized. By itself facilitating harmonization and requiring the Applicants to use best efforts to do the same, the Commission can assist to prevent the Applicants from being subject to

⁴⁸ The Commission stated in DISCO II that the Commission will not distinguish among non-U.S. licensed satellite systems based on the "extent of the implementation of [the World Trade Organization Basic Telecom Service Agreement ("WTO Agreement")] commitment" of the systems' licensing administrations. DISCO II, ¶ 44. However, the Commission did not, in DISCO II foreclose its ability to require satellite system operators to use best efforts to cause foreign administrations, including their own licensing administration, to abide by their WTO Agreement or General Agreement on Trade in Services ("GATS") commitments.

disparate and potentially inconsistent regulations and spectrum assignments imposed by foreign administrations. The Applicants ability to successfully construct, launch, and operate global MSS satellite systems, and thereby provide public interest benefits to consumers across the globe, directly hinges on the Applicants' access to uniform spectrum worldwide and the Applicants' ability to comply with the various foreign regulation applicable to 2 GHz MSS satellite systems.

For example, the Commission, in conjunction with the Executive Branch, should employ all diplomatic and enforcement means available to cause the European Radiocommunications Committee ("ERC") to provide U.S.-licensed 2 GHz MSS satellite system licensees with access to 2 GHz spectrum throughout Europe prior to 2001.⁵⁰ The ERC 2 GHz band plan currently does not include 2 GHz spectrum for U.S.-licensed MSS 2 GHz satellite systems to use to provide MSS in Europe prior to 2005, and does not include an allocation for CDMA systems.⁵¹ ICO and Inmarsat, by contrast, have been authorized by the ERC to access expansive 2 GHz band spectrum in Europe.⁵² The Commission immediately should engage the ERC in negotiations aimed at securing reciprocal access by U.S.-licensed MSS providers to ERC allocated 2 GHz spectrum and at assuring conformity in ERC and FCC regulations regarding 2 GHz MSS system

⁴⁹ See DISCO II, at ¶ 49 ("WTO dispute settlement is an effective remedy [I]t is not a remedy that the Commission can seek directly, but depends on Executive Branch action.").

⁵⁰ The Transatlantic Business Dialogue Charlotte Conference Telecommunications Service Communiqué of November 7, 1998 calls for the governments of the United States and the European Union to establish "transparent and nondiscriminatory regulatory arrangements that minimize the burden of market and spectrum access" and to establish "a formal harmonization process for radio frequency assignments to enable a fair competitive environment."

⁵¹ See ERC/DEC/(97)03.

⁵² ICO was granted access to the 1997.5-2010 MHz and 2187.5-2200 MHz bands, and Inmarsat was granted access to the 1995-2000 MHz and 2185-2190 MHz bands. Id.

technical characteristics.⁵³ In addition, the Commission should require Applicants to use their best efforts to accomplish the same results.

B. The Commission Should Require Applicants That Filed Letters of Intent to Expediently Pursue the International Coordination Necessary to Comply With the Commission's Coverage Requirement

Because the Commission will not internationally coordinate the NGSO MSS systems proposed by TMI, Inmarsat, and ICO,⁵⁴ the Commission should require that these Applicants complete by a date certain the international coordination necessary for the Applicants to satisfy the system coverage requirements proposed by the Commission.⁵⁵ Applicants that filed Letters of Intent with the Commission and whose MSS systems will be internationally coordinated by an

⁵³ Open access to the 2 GHz band, such as the Commission proposed to provide to ICO, Inmarsat, and TMI, is required by the WTO Agreement. See DISCO II, at ¶ 44 (“[A] WTO member . . . must . . . afford no less favorable treatment to a U.S. satellite system than it does to a system licensed in any other country.”). In accordance with the WTO Agreement, the ERC can only restrict access to the 2 GHz band in Europe if spectrum scarcity or technical restraints require this result, and neither factor is present in the 2 GHz band. See, supra, note 52. The Commission and the Executive Branch should encourage the ERC to provide reciprocal access to U.S.-licensed 2 GHz MSS systems in Europe as part of the ERC’s periodic review of its 2 GHz MSS band plan. See NPRM, ¶ 111 (“We note, however, that the ERC decision includes a process for periodic review of developments in the MSS field, and contemplates further decisions to take into account system requirements [for satellite systems that commence operations after 2001].”).

⁵⁴ Satellite systems are internationally coordinated through the ITU by the licensing administration and these systems are not licensed by the Commission. Because the Commission itself will internationally coordinate the satellite systems of Applicants that are U.S. licensees, no such requirement needs to be applied to U.S. licensed Applicants.

⁵⁵ In its NPRM, the Commission proposed to require NGSO Applicants to be capable of serving locations as far north as 70° N.L. and as far south as 55° S.L. for at least 75% of each 24 hours, and to provide continuous coverage to all 50 states, Puerto Rico, and U.S. territories and possessions. The Commission proposed to require GSO Applicants to provide coverage to all 50 states, Puerto Rico, and the U.S. Virgin Islands, unless the GSO Applicant demonstrates that such coverage is not technically feasible. NPRM, ¶¶ 18-19.

administration other than the United States that fail to satisfy this requirement should be subject to monetary or, in an extreme case, license forfeiture.

V. STRICT FINANCIAL QUALIFICATION REQUIREMENTS ARE NOT REQUIRED TO AVOID MUTUAL EXCLUSIVITY, AND SHOULD NOT BE ADOPTED UNDER ANY CIRCUMSTANCES

Consistent with the proposal in its NPRM,⁵⁶ The Commission should not apply threshold financial qualification requirements to the Applicants. Strict financial qualification requirements are unnecessary in the instant proceeding because the Commission's Flexible Band Arrangement will successfully avoid mutual exclusivity. The ability of licensees to meet milestones will be sufficient practical evidence of their financial ability.⁵⁷ Further, strict financial qualification requirements severely hamper the ability of entrepreneurs and small businesses to participate in the development of satellite systems by limiting eligibility to a very small number of companies. Such restrictions are no guarantees that satellite systems will be built. Moreover, artificially limiting eligibility often denies the public the benefits of innovative and lower cost services. Therefore, unnecessarily adopting strict financial qualification requirements is in direct opposition to the Commission's and Congress policy to encourage technological innovation and to support small businesses and start up companies and such qualifications should not be employed by the Commission.

⁵⁶ NPRM, at ¶¶ 23-25.

⁵⁷ If the Commission ultimately determines that its three proposed band sharing arrangements are unable to avoid mutual exclusivity, the Commission should initiate a comment round to seek further proposals to share the 2 GHz spectrum, rather than resorting to financial qualifications or competitive bidding, both of which techniques will severely hamper the ability of entrepreneurs and start ups to obtain access to the 2 GHz spectrum. See NPRM, ¶ 25 (noting that the Commission will revisit the issue of mutual exclusivity if the Commission determines that all of the Applicants' proposed systems cannot be accommodated in the 2 GHz band).

VI. THE RELOCATION COMPENSATION PLAN ADOPTED BY THE COMMISSION SHOULD COMPLY WITH CERTAIN PRINCIPLES REGARDLESS OF THE BAND SHARING ARRANGEMENT ULTIMATELY ADOPTED BY THE COMMISSION

The Commission is addressing compensation of incumbent licensees for relocation costs through a separate, pending further notice of proposed rulemaking.⁵⁸ Because the relative merits of the various relocation compensation plans proposed by the Commission, the Applicants, and incumbent 2 GHz licensees substantially depend on the band sharing arrangement adopted by the Commission in the instant proceeding, it is not possible for MCHI to provide specific comments regarding the various relocation compensation proposals. However, regardless of which relocation compensation plan ultimately is adopted by the Commission, the Commission should ensure that the plan is consistent with certain equitable principles aimed at sharing the relocation costs in a manner that is fair and equitable to all of the Applicants.

First, no Applicant should be required to contribute to the relocation costs of any incumbent 2 GHz licensee until the Applicant is prepared to commence commercial operation in the 2 GHz band. Under the NPRM, Applicants will not be required to commence operation of their MSS satellite systems for six years from the issuance of the Applicants' 2 GHz space station

⁵⁸ See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service, *First Report and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 7388 (1997) ("Relocation Order"). In its Relocation Order, the Commission required the Applicants to migrate and rechannelize all Broadcast Auxiliary Service licensees from 7 channels of 17 to 18 MHz each in the 1990-2110 MHz band to 7 channels of 12 to 13 MHz each in the 2025-2110 MHz band. In addition, the Commission required the Applicants to migrate Cable Television Relay Service and Local Television Transmission Service licensees from the 1990-2110 MHz band to the 2025-2130 MHz band. *Id.* at ¶ 1. Finally, the Commission required the Applicants to migrate Fixed Service licensees that will receive interference from the Applicants and that are operating in the 1990-2025 MHz, 2110-2130 MHz, and 2165-2200 MHz band to spectrum above 5 GHz. *Id.* at ¶ 6.

license.⁵⁹ During this time, the Applicants who have not commenced commercial operations should not be required to contribute to the cost of relocating incumbent 2 GHz licensees because such relocation benefits only the initial entrants. Initial entrants should not be provided a windfall gain financed by the later entrants. In addition, later entrants may still require substantial additional financing to launch their 2 GHz systems. Requiring these Applicants to contribute now to the relocation expenses incurred by incumbent operational 2 GHz licensees could prove crippling to these Applicants.

Second, initial entrants that relocate incumbent 2 GHz licensees and thereby benefit later entrants should be reimbursed by the later entrants for a proportionate share of the relocation expenses less a depreciation factor. A depreciation factor is necessary to account for the benefit solely received by the initial entrant during the period of time during which the initial entrant had sole use of the cleared spectrum. Just as initial entrants should not receive a windfall gain financed by later entrants, later entrants should not receive a windfall gain financed by initial entrants.

Third, relocation costs should be averaged across all cleared spectrum to prevent certain Applicants from being unfairly burdened if the spectrum assigned to those Applicants contains a greater number of incumbent 2 GHz licensees in need of relocation than 2 GHz spectrum assigned to other Applicants. Averaging relocation costs across cleared spectrum should prevent initial entrants from obtaining windfall benefits by claiming spectrum that is less densely utilized by incumbent 2 GHz licensees.⁶⁰

⁵⁹ NPRM, ¶ 88.

⁶⁰ Thus, if under the relocation compensation plan ultimately adopted by the Commission, an initial entrant is permitted to clear a small band of the 2 GHz spectrum in which to operate its

VII. THE COMMISSION SHOULD NOT REQUIRE ADDITIONAL FEEDER LINK SHARING IN THE 7 GHZ AND 15 GHZ BANDS

MCHI endorses the Commission's proposal to limit sharing of NGSO MSS feeder links in the 7 GHz and 15 GHz bands.⁶¹ MCHI is fully capable of coordinating the requested 7 GHz and 15 GHz feeder links of its proposed 2 GHz MSS satellite system with its Big LEO 7 GHz and 15 GHz feeder links. In addition, MCHI believes that it is possible to coordinate these feeder links with the Big LEO feeder links of Constellation and Globalstar in the 7 GHz band (both) and 15 GHz band (Constellation only).⁶² However, MCHI does not believe that it is possible to accommodate additional feeder links in these bands without incurring prohibitively high and unjustifiable costs to prevent interference.⁶³ Thus, the Commission should not add additional system feeder links to these bands.

MSS satellite system and the initial entrant clears a less densely populated band, the initial entrant should be required to contribute to the relocation costs of later entrants that are forced to clear more densely populated bands. Each operating Applicant should ultimately pay the average cost per MHz of clearing all cleared spectrum times the number of MHz of spectrum being used by the Applicant regardless of the actual cost of clearing the discrete spectrum band in which the Applicant is operating.

⁶¹ NPRM, ¶ 59-60.

⁶² To facilitate coordination between the Big LEO licensees authorized to use the 5, 7, and 15 GHz bands, MCHI suggests imposing a good faith coordination negotiation requirement on the coordination of these bands. See, supra, note 17.

⁶³ Adding 7 and 15 GHz spectrum users adds colinear interference events and increases them to intolerable levels unless such additional Applicants are restricted to using narrow beam (on the order of 1 degree or smaller) satellite feeder link antennas and their ground sites are adequately separated from others, particularly those licensed under the earlier Big LEO proceeding. Antenna space diversity can mitigate colinear interference at 7 GHz, but cannot at 15 GHz, since it is not possible to implement adequate antenna space diversity on the satellite and continue to use the satellite. Likewise signal cancellation approaches are feasible on the ground for 7 GHz but would be prohibitive on the spacecraft to support additional sharing in the 15 GHz feeder link uplinks. In addition, because all Applicants use both polarizations, there is no additional polarization to use for polarization isolation among Applicants.

VIII. THE COMMISSION SHOULD MINIMIZE REGULATORY COSTS LEVIED ON APPLICANTS SO THAT APPLICANTS CAN PROVIDE AT AFFORDABLE RATES LOW-COST SERVICE TO RURAL AND HIGH-COST AREAS, SUCH AS INDIAN RESERVATIONS, THAT CURRENTLY ARE NOT SERVED ADEQUATELY

The Applicants are uniquely qualified to provide voice and data telecommunications services to rural, economically isolated, and high-cost areas, such as Indian reservations, that currently are not served adequately by existing telecommunications infrastructures.⁶⁴ The Commission's proposed coverage requirements will assure that all of the Applicants will be capable of providing service to all under-served communities and locations in the United States, its territories and possessions. However, merely providing telecommunications services to these communities is not sufficient to assure their members have adequate access to basic and advanced telecommunications services. These services must be affordable to the community members, which are often low-income, as is often the case with Indian reservations and other rural or remote communities in the United States.

Under-served communities will be progressively better served by the Applicants as the Applicants are able to reduce their rates. One of the most significant expenses that the Applicants will be required to bear is relocation costs for incumbent 2 GHz licensees. The Commission can increase directly the number of under-served communities served by the Applicants at affordable rates by reducing the relocation costs that the Applicants must bear to the greatest extent possible. In addition, the Commission can increase the Applicants' ability to provide economically viable telecommunications services to under-served communities by identifying express and implicit regulatory provisions that may prevent satellite providers from seeking universal support

⁶⁴ See NPRM, ¶ 95.

subsidies and reforming those provisions to permit Applicants and other MSS providers to participate fully in this important Commission initiative.⁶⁵

IX. THE COMMISSION SHOULD APPLY TO THE APPLICANTS THE PROHIBITION AGAINST EXCLUSIONARY ARRANGEMENTS WITH FOREIGN ADMINISTRATIONS THAT IS APPLICABLE TO THE BIG LEO LICENSEES

MCHI urges the Commission to promulgate a regulation applicable to the Applicants that prohibits the Applicants (whether U.S. licensed or foreign licensed) from entering into agreements with foreign administrations that provide Applicants with exclusive rights to provide any type of voice or data telecommunications services between the United States and a foreign country.⁶⁶

The Commission recognized in DISCO II that exclusive agreements with a foreign administration to provide any type of voice or data telecommunications services to or from the United States are fundamentally anticompetitive and should not be permitted.⁶⁷ The Commission adopted regulations applicable to a variety of other satellite services that prohibit licensees in those services from entering into exclusive arrangements to transport telecommunications traffic between the United States and a foreign country and should also apply such a regulation to the applicants.⁶⁸

⁶⁵ See, e.g., Federal-State Joint Board on Universal Service, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, CC Docket No. 96-45, FCC 98-278 (rel. Oct. 26, 1998) (noting that wireless and cable providers do not typically seek universal service support and seeking comment on whether, in practice, universal service rules favor unfairly one technology over another).

⁶⁶ See NPRM, at ¶ 103.

⁶⁷ DISCO II, ¶ 166 (“The goal of our exclusive arrangement prohibition is to maximize fair and effective competition.”).

⁶⁸ See 47 C.F.R. §§ 25.142(d) (applicable to NVNG MSS licensees), 25.145(e) (applicable to Ka-band licensees), and 25.143(h) (applicable to Big LEO licensees); see also DISCO II, at ¶ 41 n.72 (“This rule prohibits licensees from entering arrangements with foreign countries to be the exclusive provider of a particular service in that country.”).

X. CONCLUSION

For reasons more fully stated herein, the Commission should adopt the Flexible Band Arrangement to assign 2 GHz band spectrum among the Applicants because the Flexible Band Arrangement offers significant public policy advantages over the Commission's other three spectrum assignment proposals. The Flexible Band Arrangement accomplishes the twin goals of assuring adequate and certain access to 2 GHz spectrum to every Applicant, thus avoiding mutual exclusivity, while still preventing the inefficient underutilization of spectrum caused by delays in service implementation. In addition, the opportunity to access the expansion bands, which are incorporated into the Flexible Band Arrangement, provides Applicants with incentive to expeditiously build out their MSS satellite systems and begin serving customers. Further, the expansion bands provide the Flexible Band Arrangement with the flexibility necessary to accommodate technological advances and changing markets.

MCHI also urges the Commission to encourage the harmonization of international 2 GHz band MSS satellite system technical regulations and spectrum assignments by conditioning the grant of 2 GHz licenses on agreement by the Applicants to use their best efforts to cause foreign administrations to harmonize their band plans and technical requirements with those established by the Commission in the instant proceeding. Specifically, the Commission and the Applicants should encourage the European Radiocommunications Committee to provide U.S.-licensed 2 GHz MSS satellite system licensees with access to 2 GHz spectrum throughout Europe consistent with the World Trade Organization's Basic Telecom Services Agreement.

Finally, MCHI supports several of the Commission's proposals applicable to 2 GHz Applicants and recommends several additional regulatory measures. For the reasons discussed

herein, each of these regulatory provisions supports the public interest and thus should be adopted by the Commission.

Respectfully Submitted,

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